GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

STARRED QUESTION NO:80
ANSWERED ON:22.10.2008
DE SALINATION OF SEA WATER
Khan Shri Mohammad Tahir;Sai Shri Nand Kumar

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether de-salination of sea-water is possible by application of nuclear technology;

(b) if so, the details thereof;

(c) whether the Government has set up any project in this regard;

(d) if so the details thereof;

(e) ithe estimated cost of conversion of waterper litres; and

(f) the mechanism evolved by the Government to ensure the cost effectiveness of the project?

Answer

THE MINISTER OF STATE IN THE PRIME MINISTER`S OFFICE AND MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (SHRI PRITHVIRAJ CHAVAN)

(a) to (f) A statement is laid on the Table of the House.

GOVERNMENT OF INDIA DEPARTMENT OF ATOMIC ENERGY STATEMENT REFERRED TO IN REPLY TO LOKSABHA STARRED QUESTION NO.80 BY SHRI MOHD. TAHIR AND SHRI NAND KUMAR SAI REGARDING DE-SALINATION OF SEA WATER FOR ANSWER ON 22.10.2008

(a) Yes, Sir.

(b) De-salination of sea water is possible by using either Reverse Osmosis (RO) or Thermal processes. Electrical and/or thermal energy from atomic power station or nuclear research reactor can be used for this purpose.

(c) Yes, Sir.

(d) BARC has developed desalination plants based on both RO as well as thermal processes. RO plants have capacities ranging from five thousand litres per day to eighteen lakh litres per day. Multi Stage Flash (MSF) evaporation based thermal process has been demonstrated up to the level of four lakh litres per day and a MSF plant with capacity of forty five lakh litre per day is under construction.

(e) The cost of conversion of seawater into potable water using the above technologies varies between 5 to 10 paise/litre for a 5 MLD plant using RO and MSF technology respectively at an electricity tariff of Rs. 3 per KWh.

(f) When large scale plants are built, the economy in scale will provide further reduction in cost. BARC has also taken up R&D Projects on desalination and water purification technologies for development of cost reduction strategies through technological innovations. Some of these projects are:

i) Development of Membrane for RO process

ii) Advanced Desalination Technology Studies

iii) Solar driven desalination systems

iv) Experimental studies for recovery of valuables from brine